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A composite therapeutic preparation for radioisotope elimination: Theoretical presuppositions

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Abstract

© 2016, International Journal of Pharmacy and Technology. All rights reserved.After having conducted a targeted search for radioprotective drugs, the domestic and foreign scientists have proposed a number of means of synthetic protectors (cystamine, serotonin, tryptamine, indralin), zooadaptogenic (tissue extracts of animals, poisons of snakes, insects), hormonal agents (estradiol, estrogen, estrone), herbal remedies (ginseng, Siberian ginseng, Chinese magnolia-vine, hydrolyzate from cabbage, mustard, radish, the extracts of mushrooms, lichens, club mosses, and seaweed). As the means of protection from internal exposure the adsorbents (bentonite, zeolite, iodine preparations, ferrocyn, pectin, calcium alginate, algisorb, adsorb, polisurmin) have been offered. However, using a set of the above means of pharmacotherapy and isotopes decorporation is not systematized, the existing recommendations for their application require prolonged courses of treatment with the components of various composition, without a specific dosage and consistency in their application, which creates some difficulties and problems in assessing their effectiveness. Considering the above stated, we have conducted a study aimed at substantiation and investigation of the possibility of constructing a composite radioprotective drug with therapeutic and sorption properties. Based on the conceptual provisions of the pharmacotherapy of radiation pathology and ecopathology, our designed strategy for the construction of composite radioprotective drugs having bifunctional (medical decorporating) effect intended an inclusion of immunotropic (serum and tissue globulins), biogenic stimulants (adaptogens, apical and herbal remedies) and natural sorbents (bentonite, montmorillonite) in the drug composition.

Keywords

Bentonite, Radionuclides, Radioprotective activity, Sorbents